

BEST AVAILABLE COPY**IN THE CLAIMS:**

Please amend the claims as follows:

1-44. (Cancelled)

45. (Previously presented) A medical system to analyze brain waves of a subject comprising:

- (a) an active EEG (electroencephalograph) electrode detecting a subject's brain waves;
- (b) a stimulus generator providing to the subject concurrent sense stimuli in a plurality of stimulus modes, the stimuli in a first one of the modes being at a frequency F_1 and the stimuli in a second one of the modes being at a frequency F_2 ;
- (c) an amplifier amplifying and digitizing the detected brain waves;
- (d) a processor receiving the digitized brain waves from (c) and producing subject brain wave F ratio data as a function of a power of brain responses at each of F_1 and F_2 in the presence and absence of stimulation;
- (e) a computer comparing the subject brain wave F ratio data from (d) with one of brain wave F ratio data generated as a function of one of (i) data from a control group of patients and (ii) data generated by the subject in the presence and absence of stimulation;
- (f) an output coupled to the computer and producing a warning when the comparison of (e) indicates one of injury to and dysfunction of one of the subject's spinal cord, brain stem and brain; and
- (g) a modulator modulating a carrier wave and the amplified brain waves to generate an audio signal therefrom.

46. (Previously presented) The medical system according to claim 45, wherein a statistical evaluation of computed measures from a subject is determined by computing a Z-score, where $Z = (M-P)/6$, wherein M is a mean value of a normative distribution, P is a current measure from

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the subject and 6 is a standard deviation of a control age- matched population.

47. (Previously Presented) The medical system according to claim 45, further comprising:
a radio broadcast transmitter; and
a headband situating thereon the electrode, the amplifier and the radio broadcast transmitter.
48. (Currently Amended) A medical system to analyze brain waves of a subject, comprising:
(a) an active EEG (electroencephalograph) electrode detecting a subject's analog brain waves;
(b) connection means removably connecting the electrode to a subject's head;
(c) an amplifier situated on the connection means, the amplifier amplifying the detected brain waves;
(d) a radio transmitter situated on the connection means, the radio transmitter generating a brain wave broadcast signal based on the detected analog brain waves, the radio transmitter broadcasting the brain wave broadcast signal;
(e) a receiver receiving and amplifying the brain wave broadcast signal; [[and]]
(f) a selectively adjustable filter separating one of a single frequency band and a group of frequency bands from a brain wave frequency spectrum represented by the brain wave broadcast signal to generate a frequency band signal; and
(g)(f) sound generator coupled to the receiver, the sound generator converting the frequency band ~~brain wave broadcast~~ signal into a sound[[s]], corresponding to the analog brain waves.
49. (Previously Presented) The medical system according to claim 48, wherein the connection means includes a headband.
50. (Cancelled)

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51. (Currently Amended) The medical system according to claim ~~[[50]]~~ 48, wherein the group of frequency bands includes at least one of a delta band, a theta band, an alpha band, ~~[[and]]~~ a beta band~~[[s]]~~ and the entire brain wave frequency spectrum.

52. (Currently Amended) A medical system for analyzing brain waves of a subject at a location remote from the subject, the system comprising:

- (a) an *EEG* (electroencephalograph) electrode for detecting brain waves of the subject;
- (b) attachment means coupled to the electrode and removably attaching the electrode to a head of the subject;
- (c) an amplifier connected to the electrode for amplifying the detected brain waves;
- (d) a transmitter situated on the attachment means and broadcasting a signal based on the amplified brain waves;
- (e) a remote receiver receiving the brain wave signal; ~~[[and]]~~
- (f) a selectively adjustable filter separating one of a single frequency band and a group of frequency bands from a brain wave frequency spectrum represented by the brain wave broadcast signal to generate a frequency band signal; and
- (g)(f) an output device generating an output signal based on the brain-wave frequency band signal for analysis by an operator to determine the existence of brain dysfunction.

53. (Previously presented) The medical system according to claim 52, further comprising a processor analyzing the brain wave signal to determine the existence of brain injury, wherein the output device generates a warning when the analysis of the brain wave signal indicates brain dysfunction.

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54. (Previously Presented) The medical system according to claim 52, wherein the attachment means includes a patch and the electrode includes an active electrode, a reference and a ground.

55. (Previously presented) The medical system according to claim 52, wherein the transmitter includes one of a radio transmitter and a cellular telephone.

56. (Cancelled)

57. (Cancelled)

58. (Cancelled)

59. (Currently Amended) The medical system according to claim 52, further comprising an output device producing an audible output signal based on the ~~brain wave~~ frequency band signal.

60. (Cancelled)

61. (Cancelled)

62. (Cancelled)

63. (Cancelled)

64. (Cancelled)

65. (Previously Presented) The medical system according to claim 52, wherein the attachment means includes a headband.

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66. (Previously Presented) The medical system according to claim 52, comprising:
at least three electrodes;
three amplifiers; and
reference and ground electrodes.
67. (Cancelled)
68. (Currently Amended) A medical method to analyze brain waves of a subject, comprising the steps of:
- (a) removably connecting an active EEG (electroencephalograph) electrode to a head of the subject;
 - (b) detecting the subject's analog brain waves;
 - (c) amplifying the detected brain waves using an amplifier situated on a device connecting the EEG electrode to a head of the subject;
 - (d) broadcasting a brain wave broadcast signal, generated based on the detected analog brain waves, using a transmitter situated on the device connecting the EEG to the subject's head;
 - (e) receiving and amplifying the brain wave broadcast signal using a hand-held radio receiver; [[and]]
 - (f) selectively separating one of a single frequency band and a group of frequency bands from a brain wave frequency spectrum represented by the brain wave broadcast signal to generate a frequency band signal; and
 - (g)(f) generating a sound[[s]] based on the ~~brain wave signals~~ frequency band signal using the hand-held receiver by ~~demodulating the amplified brain wave broadcast signal.~~
69. (New) The medical system according to claim 48, further comprising:
- (h) a processor performing a split-half replication on the brain wave broadcast signal to detect asymmetry in the brain waves.